Research Summary:
Antiherpetic Medication Use and the Risk of Gastroschisis

The Journal of Paediatric and Perinatal Epidemiology recently published a study led by one of the Massachusetts Center for Birth Defects Research and Prevention collaborators, Katherine Ahrens. The title of the study is *"Antiherpetic Medication Use and the Risk of Gastro schisis: Findings from the National Birth Defects Prevention Study, 1997 -2007*." You can read the article's summary here.

Main Findings from the Study[1]

Though use of medication to treat herpes is rare during early pregnancy, the use of it (or genital herpes itself) may increase the risk of gastroschisis, a birth defect of the abdominal wall. First trimester use of medications to treat herpes was associate d with a 4-fold increased risk of gastroschisis. Similarly, gastroschisis risk was 3 times as high among women with genital herpes (compared to no genital herpes and no herpes medication) even i f the women were not taking herpes medication.

About this Study[2,3]

What is gastroschisis?
Gastroschisis is a birth defect of the abdominal wall where the baby's abdominal contents (such as the intestines) push outside of the body through a hole next to the belly button.

How common is gastroschisis?
According to the CDC, gastroschisis occurs in about one out of every 1,871 live births in the United States (Parker 2010).

What is currently known about gastroschisis?

- Gastroschisis occurs more commonly among babies born to young mothers (six times as often among under the age of 20 compared with those 25 or older) (Williams 2005)
- Risk factors for gastroschisis include maternal smoking, alcohol use, and ce rtain common medications such as aspirin.
- Previous studies looking at the risk of birth defects due t o herpes medications have found no association overall but have not examined the risk of specific birth defects such as gastroschisis.

How is gastroschisis treated[4]?

Surgery is needed to place the abdominal contents back into the body and close the opening in the abdomen. Once the surgery is completed and the child has healed and recovered from any short term effects most babies recover well in long term.

What were the major study results?

- Herpes medication or genital herpes itself may increase the risk for gastroschisis .
- Use of herpes medication is rare during early pregnancy, but is more common in mothers of gastroschisis cases than in mothers of babies without any birth defects .
- The risk of gastroschisis is 4 times higher in women with first trimester use of herpes medication compared with women without genital herpes or herpes medication use .
- The risk of gastroschisis is 3 times as high among women with genital herpes and no herpes medication use compared with women without herpes or herpes medication use .

Why is this study important?

Though previous studies have looked at the use of this type of medication and the overall risk of any birth defect, this is the first study to look specifically at this one type of birth defect. This is an important difference because medications can have effects on spec ific birth defects while not affecting others. This study suggests the possibility of an increased risk of gastroschisis either because of herpes medication use during early pregnancy or because of an underlying herpes infection for which the medication was used.

If the results of this study are confirmed, it raises questions about whether women who take medications to manage the effects of long-term herpes infection should be advised to stop taking these medications early in their pregnancy when they are trying to conceive. Also, if these results are confirmed and it is determined that it is the underlying herpes infection rather than the medications that increase the risk of gastroschisis, it allows doctors and their patients to be more aware of risks that may arise during pregnancy or during delivery.

References

1. Ahrens, KA, Anderka, MT, Feldkamp, ML et al. Antiherpetic Medication Use and the Risk of Gastroschisis: Findings from the National Birth Defects Prevention Study, 1997 –2007. Paediatric and Perinatal Epidemiology, 27: 340–345 -- link
2. Parker, S.E., Mai C.T., Canfield, M.A. et al. Updated national birth prevalence estimates for selected birth defects in the United States, 2004-2006. Birth Defects Research (Part A), 88 (12): 1008-1016 (2010) – link
3. Williams JE, Kucik JE, Alverson CJ. Epidemiology of gastroschisis in metropolitan Atlanta, 1968 through 2000. Birth Defects Research (Part A),73 (3): 177-183 (2005) – link
4. Gastroschisis treatment, Boston Children's Hospital – link

For more information visit http://www.mass.gov/dph/birthdefects or http://www.cdc.gov/ncbddd/index.html